



Atty. Dkt. No. 040447-0252

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Naoki HASHIMOTO et al.
Title: PACKET TRANSMISSION SYSTEM AND PACKET RECEPTION SYSTEM
Appl. No.: 10/671,905
Filing Date: 9/29/2003
Examiner: David R. Lazaro
Art Unit: 2455
Confirmation Number: 1546

PRE-APPEAL BRIEF REQUEST FOR REVIEW

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the New **Pre-Appeal Brief Conference Pilot Program**, announced July 11, 2005, this Pre-Appeal Brief Request is being filed together with a Notice of Appeal.

REMARKS

(I) Claim Rejections under 35 U. S. C. § 103- claim 1 and its dependent claims

Independent claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 7,089,304 (Graham) in view of U.S. Patent 6,687,247 (Wilford) and U.S. Patent 6,118,771 (Tajika). Claims 2-11 depend from claim 1, and are rejected as being unpatentable over the above combination or in further view of one or more of U.S. Patent 6,032,197 (Birdwell), U.S. Patent 6,112,323 (Meizlik), U.S. Patent 6,188,691 (Barkai), and U.S. Patent 6,577,609 (Sharony).

Claim 1 recites "... sorting a packet according to whether the packet should be transmitted in a unicast form or in a simultaneous packet form by multicast or broadcast...

adding packet identification information to a packet sorted to be transmitted in simultaneous form.”

In the Final Office Action, the Examiner correctly recognizes that Graham does not explicitly the above recited features of claim 1. However, the Action alleges that “it would be obvious to one of ordinary skill of art to modify Graham as indicated by Wilford and Tajika as providing sorting as in Wilford can improve transmission speed.” Applicants respectfully disagree. Graham teaches methods, systems, and program products for tracking a client’s usage of one or more services provided by one or more servers. But, if the feature of sorting unicast and multicast packets into different FIFOs as taught by Wilford were combined with Graham’s system, the transmission speed of Graham’s system would not be improved as suggested by the Examiner. Instead, adding such as an extra, unnecessary step to Graham may slow down the processing speed of Graham and generate extra cost. Thus, one skilled in the art would have no motivation to combine Graham and Wilford in the manner alleged in the Final Action.

The Advisory Action states “Wilford specifically indicates that the invention design provides for low latency/high speed packet routing (Col. 2 lines 43-62). As such, the examiner disagrees with Applicant’s [above] assertions”. Applicants respectfully disagree.

Graham is directed to tracking a client’s usage of services, in which “a client generates and sends one of more metering packets to a census service.” (Graham Abstract) Throughout Graham, the packets (metering packets) are generated by a client and transmitted to the census service (Graham Col. 2 lines 28-30). In other words, in Graham, only unicast packets (packets transmitted from a client to a census service) are to be transmitted. There is no multicast packet is to be transmitted.

On the other hand, Wilford Column 2 lines 43-62 reads (Emphasis provided):

“...This architecture provides low latency routing based on packet priority because packet routing and processing occurs at line rate (i.e., at wire speed) for most operations. ... the architecture provides a distributed routing function with minimal packet delay.”

The packet delay may be minimized by sorting multicast and unicast packets into separate FIFOs (Col. 10 lines 25-26) when the packets to be distributed include both multicast

packets and unicast packets. Inherently, the advantage of “low latency routing based on packet priority” would not be the case if the packets to be transmitted include only unicast packets and no multicast packet. In other words, while the packet delay may be minimized by sorting the multicast packets and unicast packets into different FIFOs when the packets to be transmitted include both multicast packets and unicast packets, no improvement may be made by sorting the packets in Graham because the packets to be transmitted include only unicast packets (no multicast packets).

Thus, the step of sorting unicast and multicast packets of Wilford, if added to the Graham method, would not improve the process speed of the Graham method, and indeed, would slow down the processing speed because it is an extra (not needed) step that would take extra time and generate extra cost. For at least the above reasons, Applicants respectfully submit that the general comment of “the invention design provides for low latency/high speed packet routing,” as stated on Page 2 lines 6-8 of the Advisory Action, does not constitute a motivation for one of ordinary skill in the art to combine Wilform and Graham.

Tajika, Birdwell, Meizlik, Barkai, and Sharony were cited for disclosing other features of the claims, but fail to cure the above deficiencies. Thus, the independent claim 1 and its dependent claims are patentable for at least the above reasons.

(II) Claim Rejections under 35 U. S. C. §§ 102 and 103- claim 12 and its dependent claims

Claim 12 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,574,770 (Daudelin). Claims 13-14 and 16-23 depend from claim 12 and are rejected as being unpatentable in further view of one or more of U.S. Patent 6,687,247 (Wilford), U.S. Patent 6,032,197 (Birdwell), U.S. Patent 5,793,976 (Chen), U.S. Patent 6,188,691 (Barkai), U.S. Patent 6,646,987 (Qaddoura), and U.S. Patent 6,577,609 (Sharony). Applicants respectfully traverse these rejections for the reasons given below.

Claim 12 recites “...reception means capable of receiving duplicate packets that are allocated packet identification information once or a plurality of times without a retransmission request”. For example, Applicant’s specification discloses that even when the packet has been previously received by the receiving side, the reception side may still be able

to receive one or more duplicates of the packet, without sending a retransmission request. In other words, the claimed reception means is capable of receiving duplicates of a packet without a retransmission request, regardless of whether the packet has been previously received by the reception side or not.

In sharp contrast to claim 12, the error-correcting communication protocol disclosed in Daudelin requires “a retransmission request” to enable the retransmission process. Specifically, C2/L48-64 of Daudelin reads:

... if a receiver acknowledgment indicating successful reception has been received, the packet previously sent is removed from the head of its queue. Otherwise, the packet is left at the head of its queue, the queue is placed in a "pending retry" state, and a short, "pending retry" timer, preferably, a hardware timer, is started ...

When the pending retry timer expires, a hardware process or a software transmit complete interrupt service routine, moves all queues associated with the pending retry timer out of the pending retry state, enabling their packets to be transmitted again.

In other words, a pending retry timer of Daudelin would only be started in absence of receiving a receiver acknowledgement from the reception side. When such a receiver acknowledgement is received, the pending retry timer would not be started. In such a case, the packet having been previously sent would not be sent again to the receiver (the packet is removed from the head of its queue). Thus, Daudelin fails to teach “reception means for receiving duplicate packets that are allocated packet identification information once or a plurality of times without a retransmission request” as recited in claim 12.

In regard to this point, the Advisory Action states:

The Examiner does not see how a ‘pending retry time expires’ equates to a retransmission request. Applicant’s specification indicates a retransmission request would be a request received from a reception side (see for example page 3 lines 1-11 [of the Specification]). The retry timer of Daudelin is simply a timer that allows for retransmission of packets after a certain time. There is no request involved (particularly a request received from a reception side) with the timer or the subsequent retransmission of a packet moved out of the pending retry state. (Page 3, lines 2-5 [of Daudelin])

Applicants respectfully disagree. First, the Examiner, pointing to Page 3 lines 1-11 of the Specification, erroneously construed the term “without a retransmission request” recited in claim 12 as “without a retransmission request from reception side.” The invention of claim 12, however, is not limited in this manner. Indeed, Page 3 lines 1-11 of the Specification

refers to “a transmission means” as recited in claim 1, as opposed to “reception means” as recited in claim 12. Furthermore, the paragraph starting from Page 4 line 24 of the Specification states:

According to a fourth aspect of the present invention, there is provided a packet reception system comprising: reception means capable of receiving same packets allocated packet identification information once or a plurality of times without a retransmission request ...

The “retransmission request” as recited in claim 12 and the above embodiment does not limit the retransmission request to be a request from the reception side. Applicants respectfully submit that it is the claims, instead of the certain exemplary embodiments of the Specification, that limit the scope of the invention.

Second, as explained above, Daudelin teaches “when the pending retry timer expires ... moves all queues associated with the pending retry timer out of the pending retry state, enabling their packets to be transmitted again.” On the other hand, if the pending retry timer does not expire (e.g. is not started), the packets would not be transmitted again. Thus, the expiration of the pending retry timer clearly constitutes a retransmission request, teaching away from the features recited in claim 12.

Wilford, Birdwell, Chen, Barkai, Qaddoura, and Sharony were cited for disclosing other features of the claims, but fail to cure the above deficiencies of Daudelin. Thus, claim 12 and its dependent claims are patentable for at least the above reasons.

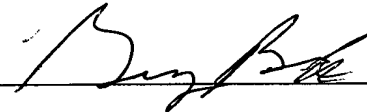
Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. In view of the foregoing, it is respectfully submitted that the application is in condition for allowance.

Respectfully submitted,

Date

2/26/2009

By



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